

REMARKS

INTRODUCTION

In accordance with the foregoing, claims 5 and 10 have been rewritten in independent form and claims 11-13 have been added. No new matter is being presented, and approval and entry are respectfully requested. Therefore, claims 1-13 are pending and under consideration. Reconsideration is respectfully requested.

OBJECTION TO THE ABSTRACT

In the Office Action, the Abstract was objected to because the words "thereby and "thereof" appear. However, in view of the proposed amended Abstract set forth above, the outstanding objection to the Abstract should be resolved.

REJECTION UNDER 35 U.S.C. §103

In the Office Action, claims 1-4 and 6-9 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gamo et al (U.S. Patent No. 4,843,203) in view of Ohashi in Japanese Patent No. 4-105,820 and Inoue in Japanese Patent No. 63-120,030. The rejection is traversed and reconsideration is requested.

Briefly, applicants note that the claimed invention is directed to an electric wire discharge machine that prevents machining errors caused by wire consumption due to electric discharge. During electric discharge, wire consumption occurs leading to an offset between a central axis of the wire and a programmed path and an insufficient or impaired machining operation.

As such, claim 1 recites storage means storing a straightness-error corrective amount to prevent a straightness error of a wire electrode caused by consumption of the wire electrode due to the electric discharge, and motion path determination means. The motion path determination means obtain a first correction amount for a motion path of the wire electrode on a first plane parallel to the workpiece in an offset direction of the wire electrode and a second correction amount for a motion path of the wire electrode on a second plane parallel to the workpiece in the offset direction based on the straightness-error corrective amount stored in said storage means. The motion path determination means further correct the motion path on the first plane by a first corrected offset amount obtained based on the first correction amount and a predetermined

offset amount depending on a wire radius and an electric discharging gap, as well as the motion path on the second plane by a second corrected offset amount obtained based on the second correction amount and the predetermined offset amount.

The reference to Gamo, on the other hand, teaches a taper cutting control method and system in a wire-cut electric discharge machine, which, in the taper cutting operation, allows the movement of the upper and lower guides for guiding the wire electrode to be started and ended simultaneously. Gamo does not teach, however, recognition of the problem of wire consumption during electric discharge leading to an offset between a central axis of the wire and a programmed path and an insufficient or impaired machining operation, as in the current application. Thus, Gamo does not provide evidence of the desirability of the suggested combination with either or both of the other references.

Furthermore, applicants are aware that Gamo discusses machining tapered shapes which seems to correspond with an aspect of the present invention. *See FIGS. 4 and 5.* Nevertheless, Gamo is silent as to the possibility of wire consumption during the machining. Hence, Gamo provides no discussion as to how the reference responds when wire consumption occurs. Thus, the fact that Gamo teaches machining tapered shapes does not, by itself, provide justification for the suggestion that Gamo should be combined with references having the advantages of a storage means to store the alleged Ohashi corrective amounts and motion path determining means and the Inoue teaching of compensating for wire consumption.

Here, applicants note that it is well established that, for an obviousness rejection to be proper where two or more references are combined, there must be some teaching suggestion or motivation to combine the references, as suggested, found either explicitly or implicitly in the references themselves. Applicants further note that no such teaching suggestion or motivation is found since, as discussed above, Gamo does not teach, however, recognition of the problem of wire consumption during electric discharge.

Therefore, since the other references relied upon by the Examiner, which amount to nothing more than English abstracts, indisputably fail to provide a teaching, suggestion, or motivation to combine the references as suggested, applicants respectfully assert that claim 1 is patentably distinguished from any combination of the prior art and is therefore believed to be allowable. Thus, the rejection of claim 1 is believed to be overcome.

Regarding the rejection of claim 6, it is noted that claims 1 and 6 recite similar subject matter and that therefore, claim 6 is allowable for substantially similar reasons as set forth above with respect to claim 1.

Regarding the rejections of claims 2-4 and 7-9, it is noted that these claims are

dependent on claims 1 and 6 and therefore allowable for at least the reasons as set forth above.

Further, applicants note that these claims recite additional patentably distinguishing subject matter. For example, claims 2 and 7 recite that "said motion path determination means obtains the first corrected offset amount on the first plane and the second corrected offset amount on the second plane different with each other, to thereby make different corrections to the motion paths on the first and second planes."

ALLOWABILITY OF CLAIMS 5 AND 10

Applicants acknowledge with appreciation that claims 5 and 10 have been found to include allowable subject matter and note that claims 5 and 10 have been rewritten in independent form, as suggested. Thus, it is respectfully requested that claims 5 and 10 be formally allowed.

ALLOWABILITY OF NEW CLAIMS 11-13

Applicants note that new claims 11-13 have been added. Claims 11 and 12 recite similar subject matter as claims 1 and 6, and therefore are believed to be allowable for substantially the same reasons as claims 1 and 6 as set forth above. Claim 13 recites a method of operating on a workpiece to be machined with an electric wire discharge machine and is also believed to be patentably distinguished from the prior art.

CONCLUSION

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and/or rendered moot. And further, that all pending claims patentably distinguish over the prior art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

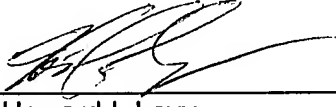
If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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